The 4th GO-ESSP Workshop
June 6-8 2005, BADC

GFDL Data Portal

Current Status and achievements

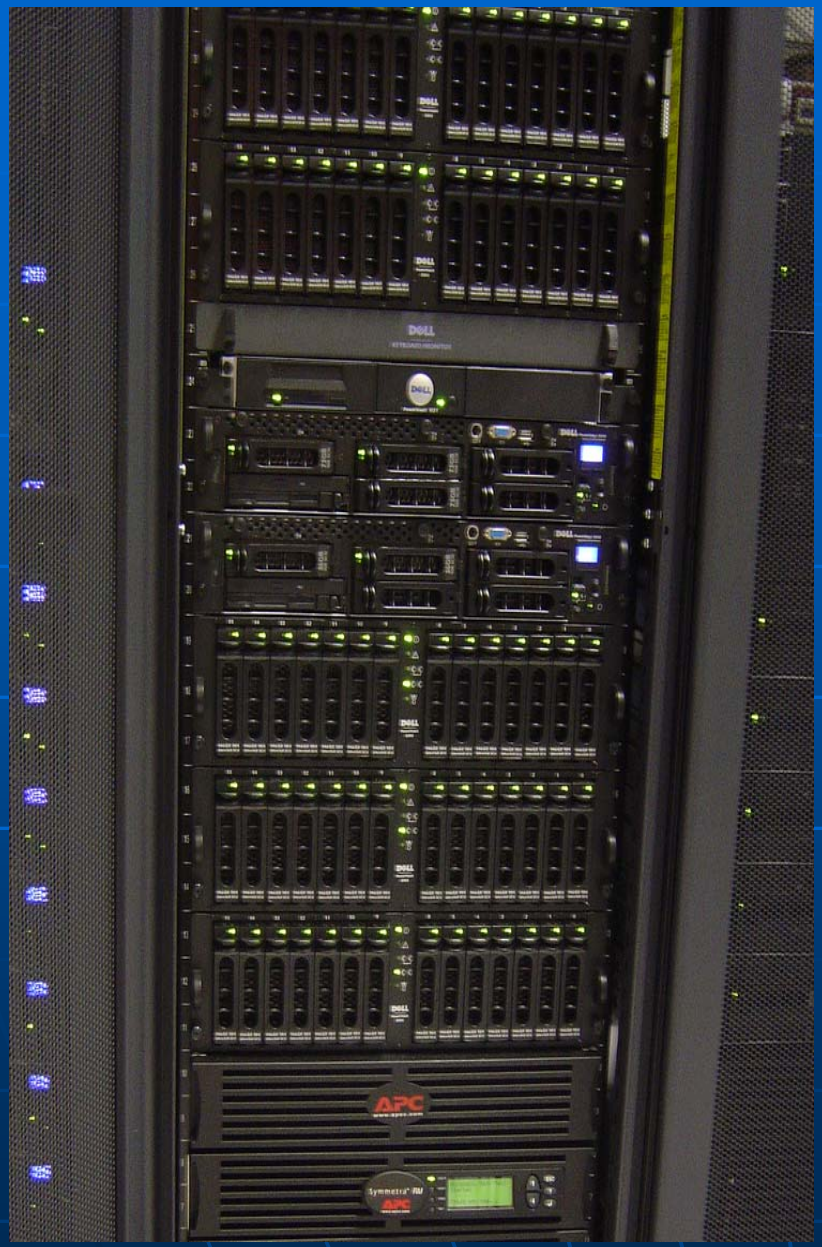
History

- Data Portal was launched in 1995 as simple ftp server.
- The idea and the term “Data Portal” arose 3 years ago.
- Originally it served data by occasional requests.
- Now the main assets are IPCC data.

Common technical characteristics

Software

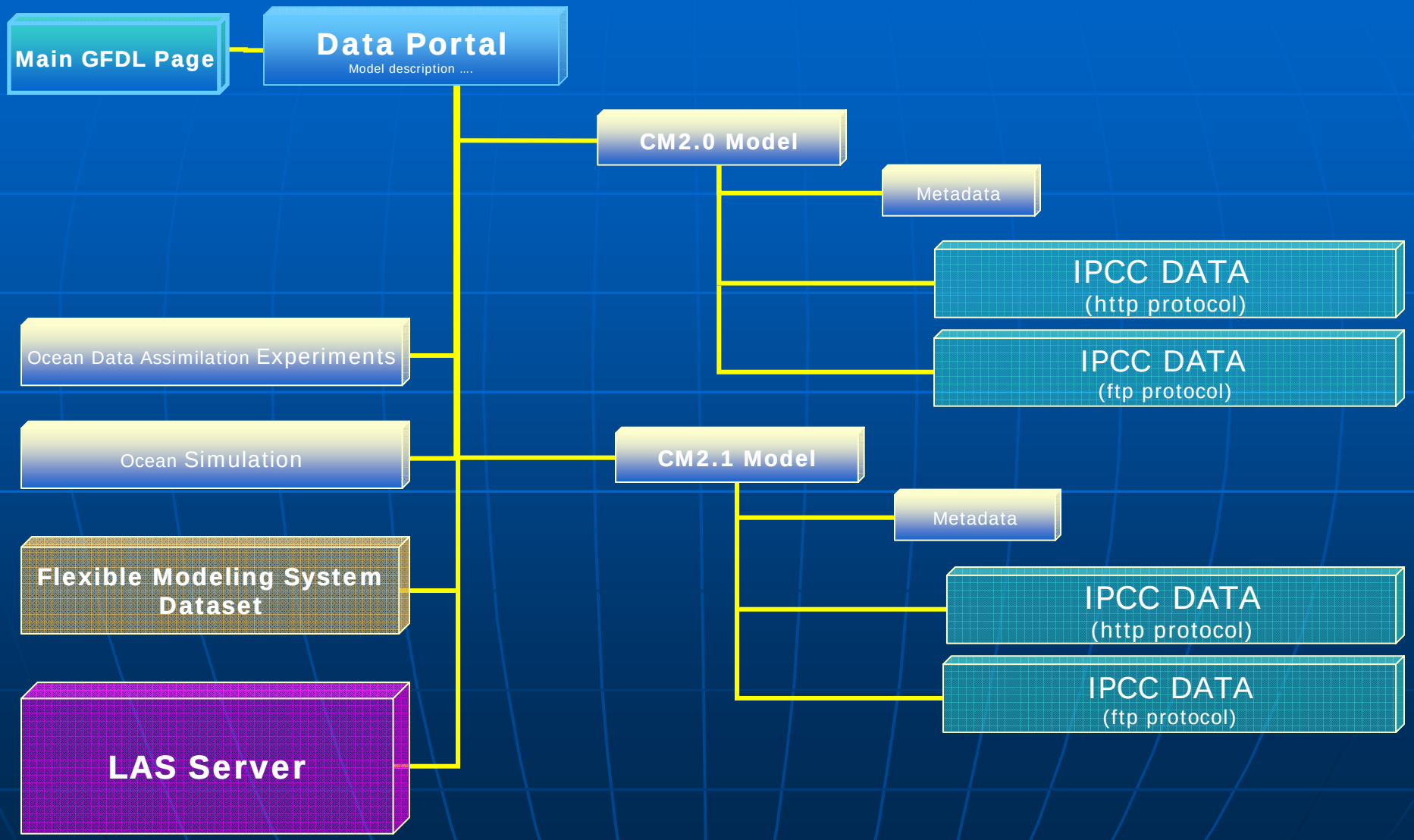
- Red Hat Linux
- Apache Web Server
- DODS Aggregation Server
- TREDDS
- LAS Server
- GrADS-DODS



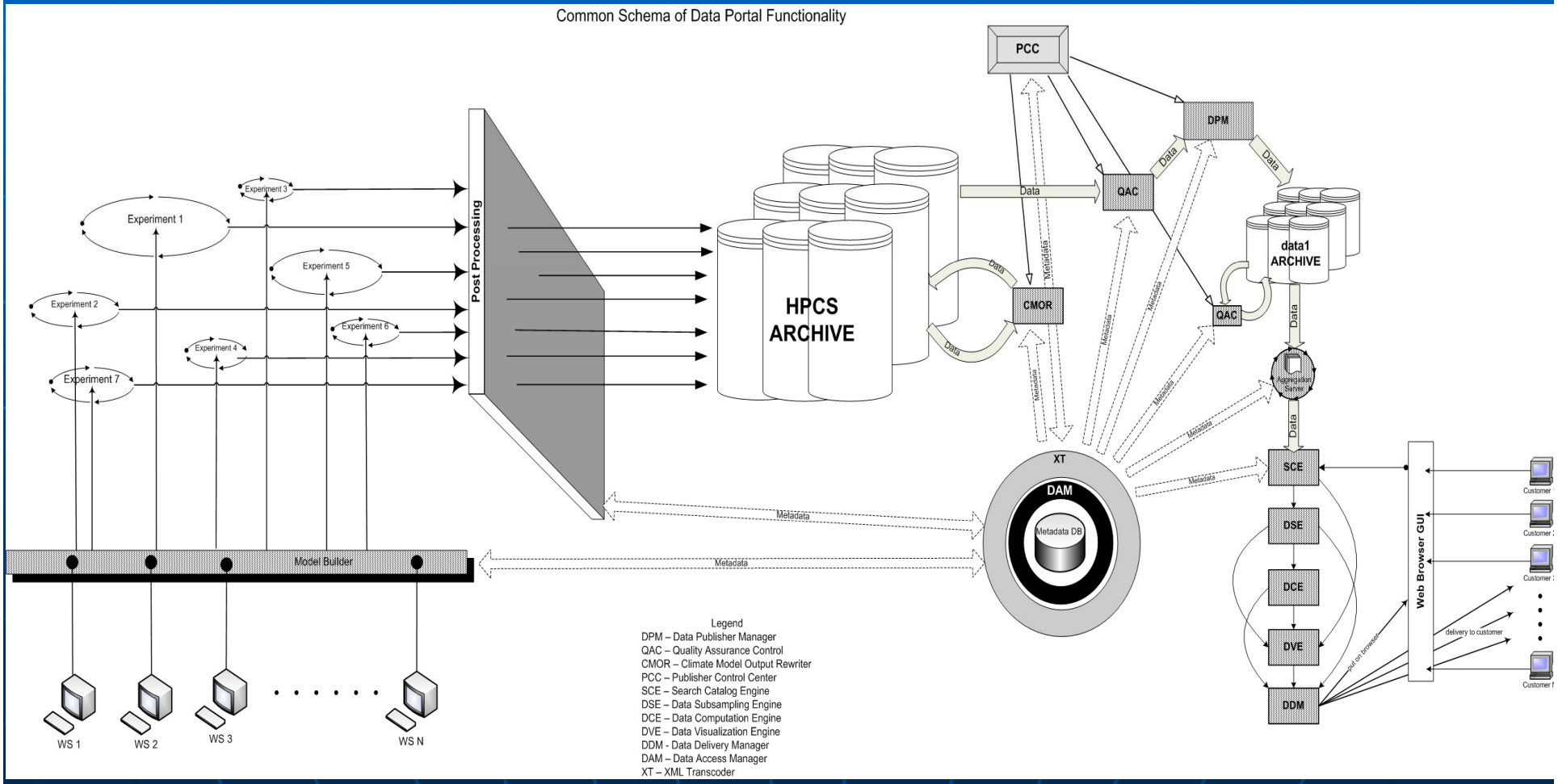
Hardware

- Dell Power Edge 2650 machine (primary and backup)
- Dual Processor Intel Xeon 2.4 GHz
- 3 GB RAM
- Raid of 14 HDs, 20 TB totally
- Network bandwidth:
  - internet – 9 Mbit/s
  - internet-2 – 100 Mbit/s

WEB site Structure



Common features of Data Portal



Basic Metadata

- Model description
- Experiment description
- Extra metadata for treating tripolar grids (including ferret scripts for their visualization)
- Standard CF compliant metadata

IPCC Data

General Statistics

01-Oct-2004 to 31-May-2005

- Total amount of IPCC Data: 5.44 TB
- 7000 NetCDF files, average file size: 800 MB
- Successful requests: ~55,000
- Average successful requests per day: ~200
- Distinct files requested: 3,300
- Distinct hosts served: ~600
- Data transferred: 10.82 TB
- Average data transferred per day: ~45 GB

Ocean Data Assimilation Experiments

gfdl's home page > products and services > data portal > Ocean Data Assimilation Experiments

ocean data assimilation experiments

Experiments from a model used for seasonal to interannual prediction and studies of the time period 1981-2000.

The following Ocean Assimilation Experiments data sets are currently available on the GFDL data portal.

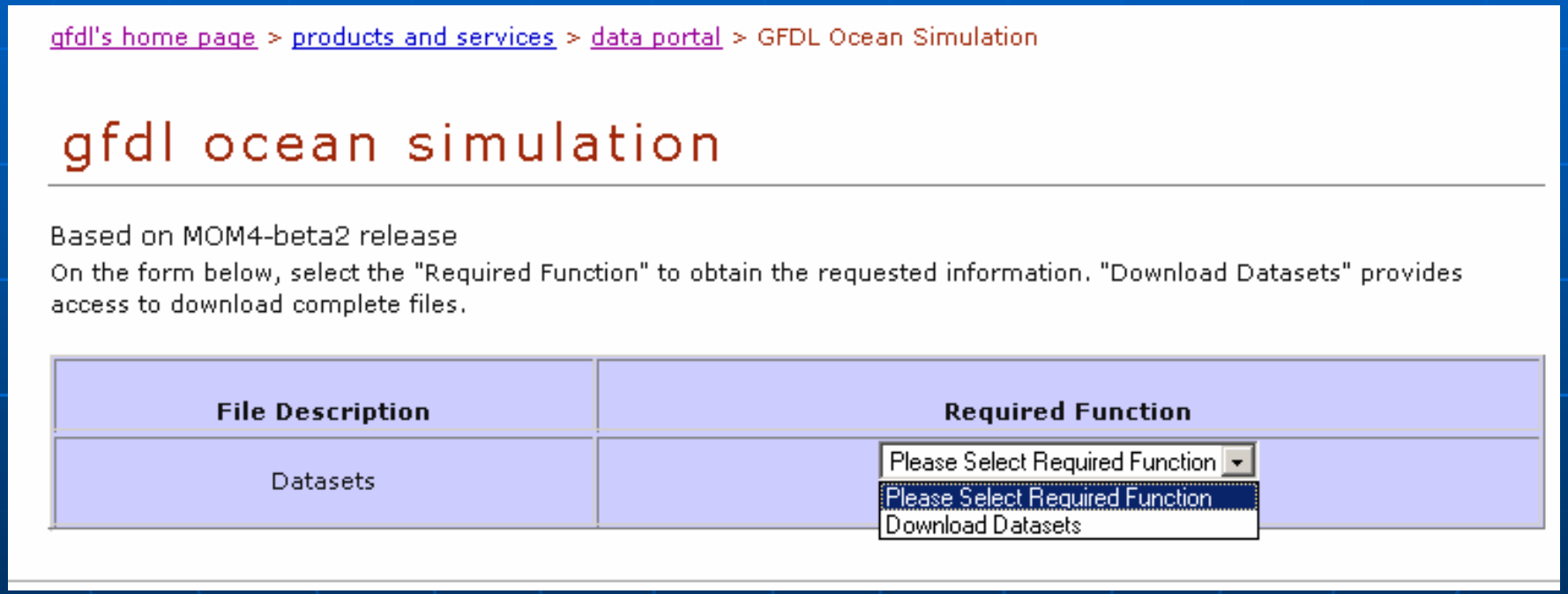
On the form below, select the "Required Function" to obtain the requested information. "Download Datasets" provides access to download complete files. "Download Data Subsets" allows selected data in the file to be downloaded. "GrADS-DODS Server" provides GRADS-DODS access the datasets. "Graphical Display" uses the Live Access Server to graphically display the data on the client.

Documentation that describes the experiments can be found on the Ocean Data Assimilation Model web pages.

Experiment Identifier	Required Function	Time Period Archived	Length of Output (Years)	Frequency of Storage
ocean_assimilation	Please Select Required Function	1981-2000	20	monthly

Please Select Required Function
Download Datasets
Download Data Subsets
GrADS-DODS Server
Graphical: Display

Ocean Simulation



Flexible Modeling System Dataset

gfdl's home page > products and services > data portal > Flexible Modeling System data sets

flexible modeling system data sets

Including exchange and ocean grids, bgrid and spectral atmospheric initial conditions, and datasets used by FMS code modules.
The following FMS data sets are currently available on the GFDL DataPortal for download.

On the form below, select the "Required Function" to obtain the requested information. "Download Datasets" provides access to download complete files.

Jakarta and Khartoum Releases

Documentation that describes these data files can be found in the Quickstart Guide in the AM2 release package, available at **http://fms.gfdl.noaa.gov**.

File Description	Required Function
AM2	Download Jakarta Datasets Download Khartoum Datasets

Havana and Galway Releases

Documentation that describes these data files can be found in the FMS User Guide.

File Description	Required Function
Grid Files	Please Select Desired Release
Initial Conditions	Please Select Desired Release
Module Data	Please Select Desired Release
Output Files	Please Select Desired Release Please Select Desired Release Download Havana Files Download Galway Files

LAS Server

GFDL Data Portal OPeNDAP (FDS) | THREDDS | Index | Search: Go

single data set | compare two

Datasets
Variables
Constraints
Output

Previous Output

Define variable

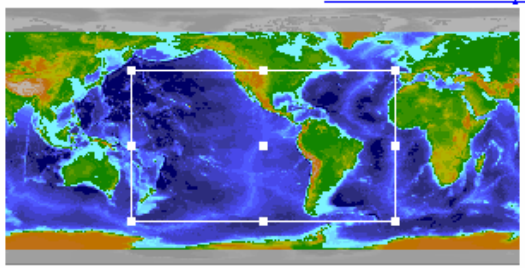
About

LAS UI Version 6.5

Datasets > GFDL Data portal > IPCC H1 ocean tri
Variable(s): **Salinity**

Select your desired view (geometry of output) and output (type of product).
Then set the 4-D region (lon-lat-depth-time) and any additional constraints.
Help

Select view: xy (lat/lon) slice — Next >
Select output: NetCDF
Select region: Full Region Go
Use the two-click map Help



46.0 N
164.0 E 10.0 W
61.0 S
Zoom In Zoom Out

Select time: 16 Jan 1870 16-Jan-1870
Select depth: 15 15

Select options:
Evaluate expression

Basic features GFDL LAS server

- Dynamic data presentation chosen by user
- Spatial/time subsampling
- Defining on a fly new variables
- ferret visualization

Common Features of Data Portal

- Relational Database storing metadata catalog
- XML as data exchange format
- Publisher Manager
  - Quality Assurance Control
  - Metadata Extractor-robot
  - Metadata Loader-robot
- Search Catalog Engine
- Subsampling Manager
- Computations of derivative variables
- Visualization Engine
- Data Delivery Manager